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STATEMENT OF FINDINGS FOR EXECUTIVE ORDER 11990 (PROTECTION OF WETLANDS) AND DIRECTOR'S ORDER #77-1:WETLAND PROTECTION

U.S. ARMY CORPS OF ENGINEERS
MANTEO (SHALLOWBAG) BAY PROJECT
MAINTENANCE OF OREGON INLET BAR CHANNEL
AND CHANNEL WIDENER ON BODIE ISLAND
CAPE HATTERAS NATIONAL SEASHORE, NORTH CAROLINA

MAY 2002

Recommended:

_____ _____
Superintendent, Cape Hatteras National Seashore Date

Certified for Technical Adequacy and Servicewide Consistency:

_____ _____
Chief, WASO Water Resources Division Date

Approved:

_____ _____
Regional Director, Southeast Region Date

INTRODUCTION

Cape Hatteras National Seashore (CAHA) was authorized by Congressional Act, H. R. 7022 on August 17, 1937, (50 Stat. 669). Of special note is the provision that:

> "Except for certain portions of the area, deemed to be especially adaptable for recreational uses, particularly swimming, boating, sailing, fishing, and other recreational activities of similar nature which shall be developed for such uses as needed, the said area shall be permanently reserved as a primitive wilderness and no development of the project or plan for the convenience of visitors shall be undertaken which would be incompatible with the preservation of the unique flora and fauna or the physiographic conditions now prevailing in this area."

The national seashore was established by Secretarial Order on January 12, 1953. It encompasses 74 miles of ocean beach and contains 30,318 acres.

Within the seashore, Federal ownership extends from ocean to sound, except that U. S. Coast Guard property and eight village enclaves are excluded from the National Seashore. On the oceanside of the villages, Federal ownership was established as a 500-foot strip measured landward from the mean low water at the time of acquisition. In addition, a larger area seaward of Buxton and Frisco includes portions of Buxton Woods. Pea Island Wildlife Refuge (5,880 acres) at the northern end of Hatteras Island and adjacent to Oregon Inlet is part of the National Seashore, but it is administered for refuge purposes by the U. S. Fish and Wildlife Service.

By deed from the State of North Carolina, the submerged lands in Oregon Inlet are within the boundary of CAHA. However, there is also a federally authorized navigation channel through Oregon Inlet. The U.S. Army Corps of Engineers (COE) maintains the channel.

The Bodie Island spit has naturally prograded into Oregon Inlet and the 400-foot wide navigation channel. In order to ensure the safety of the channel, the COE is proposing to reestablish the channel and create a widener. The COE will accomplish this by dredging, including up to 26 acres of uplands on Bodie Island. The shoreline (intertidal zone from extreme low spring tide to extreme high spring tide) of Bodie Island spit planned for dredging is a wetland as defined by “Classification of Wetlands and Deepwater Habitats of the United States” (Cowardin et al. 1979). The spit (uplands) above extreme high spring tide is not considered wetlands.

Executive Order 11990 “Protection of Wetlands” directs federal agencies to “… avoid to the extent possible the long and short term adverse impacts associated with the destruction or modification of wetlands…” E.O. 11990 also directs each agency to issue procedures to comply with the Order. The NPS policies and procedures for protection of wetlands are found in Director’s Order #77-1: Wetland Protection and its accompanying Procedural Manual. D.O. #77-1 identifies the Cowardin wetland

definition as the NPS standard for defining wetlands and determining wetland impacts, and requires that a “Statement of Findings” be prepared in cases where proposed actions will have adverse impacts on wetlands managed by the NPS. This Statement of Findings will address this impact, alternatives considered, functions of the impacted wetland, avoidance and mitigation measures, and compensation for unavoidable wetland impacts.

PURPOSE AND NEED FOR ACTION

The southern tip of Bodie Island, a part of Cape Hatteras National Seashore, is rapidly accreting and is now protruding into the established navigation channel through Oregon Inlet, which connects the waters of the Atlantic Ocean and Pamlico Sound. While this navigation channel typically follows naturally deep water, it still must pass under the Bonner Bridge at a fixed point, where sufficient overhead clearance and a navigation fender system are present. With the recent accretion of Bodie Island, naturally occurring deep water no longer passes under this point of the bridge. Under these circumstances, navigation under the bridge is very difficult, as vessels approaching the bridge have to go around the tip of Bodie Island while being subject to strong tidal currents. These currents cause them to crab across the inlet channel and they ultimately reach the navigation span at very unsafe angles.

According to the Environmental Assessment, the scope of the project takes into consideration the need to remove material from the federally authorized navigation channel to allow safe passage of vessels through the ocean bar channel. Taken into consideration is the need to directly align the ocean bar channel with the existing fender system of the Bonner Bridge and the interior connecting channels. Anything less than a straight alignment of the channel with the bridge fender system would result in endangerment to the vessels traversing the channel.

ALTERNATIVES

Alternatives to the proposed plan include:
1) construction of a new Bonner Bridge with multiple fender systems *
2) removal of Bonner Bridge and instituting additional ferry service *
3) construction of jetties *
4) dredging the channel along naturally deep water in its current alignment *
5) no action *
6) alternative channel widener widths (200, 400, and 800 feet)
7) 600 ft channel widener (Corps preferred alternative)

* Alternatives requiring construction or removal of structural features (1-3 above) were not considered practical by the Corps to address the immediate need of restoring safe navigation as each would require a substantial length of time for approvals, funding, and implementation. The EA also rejected those alternatives (1-2 above) that the Corps of

Engineers cannot implement. In like manner, the alternative to dredge the channel along naturally deep water in its current alignment and the COE no action alternative (4 and 5 above) in the EA were rejected because they would allow the unsafe conditions to persist.

Given the known variability of the spit, alternative wideners of 200-ft, 400-ft, and 800-ft were also considered in the EA. The alternative widths were rejected in the EA but the impacts were not fully analyzed. In order to address NPS and FWS mandates, the NPS has identified the 400-foot widener as a reasonable alternative that balances the protection of park resources with the Corps' mandate to maintain the federal navigation channel. The EA (Table 3) shows that the estimated time to shoal to the edge of the 400-foot wide channel is expected to be 11-months. If dredging is to be done annually, then a 400-foot widener is a reasonable alternative.

However, the Corps' preferred alternative is to dredge and maintain the 400-foot channel and include a 600-foot widener on the north side of the channel plus a 50-foot buffer. This 600-foot widener will place the Bodie Island shoreline back at its 1999 position. The channel and widener will be maintained in this position during future maintenance events until changed circumstances indicate that it is no longer necessary or until completion of a comprehensive review under the National Environmental Policy Act (NEPA) of all maintenance activity in and around Oregon Inlet.

The Corps proposes to widen the 400-ft navigation channel through Oregon Inlet by dredging uplands, above the mean-high-water line, along the southern tip of Bodie Island. The widened channel will provide for an effective storage area for sediments moving along the north side of the channel, i.e., sediment from the advancing spit would deposit within the widener rather than the channel. Since dredging is undertaken at the inlet on an annual basis, the widener needs to be able to accommodate, as a minimum, a year's supply of sediment from the spit area. The average migration rate of the spit over the past decade has been about 200 ft/yr. The widener would be parallel to the channel centerline, with the centerline at right angles to the bridge alignment at the navigation span. All plans assume 1V:5H side slopes and include transitions from the widener to the main channel.

WETLAND DESCRIPTION

The wetland habitat affected by the proposed action was delineated by the Corps of Engineers based on aerial photographs and data available at their office in Wilmington, North Carolina. The definition of the wetlands was provided by the NPS to include shoreline between extreme low spring tide and extreme high spring tide (in accordance with Cowardin et al. 1979). These lands have the attribute (#3 of section 4.1.A of Procedural Manual #77-1) that the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year. There are no plant species present and there are no hydric soils in this wetland type due to the dynamic, high-energy nature of the shoreline environment. The wetland is classified in

the Cowardin system as estuarine, intertidal, unconsolidated shore, sand, regularly flooded (E2US2N). There is approximately 74 miles of this wetland (shoreline) type within the boundary of Cape Hatteras National Seashore.

The U.S. Fish and Wildlife Service's National Wetland Inventory map (NWI) uses the Cowardin definition and classification system. However, because the most recent map predates the creation of the spit that is proposed for dredging, the intertidal wetlands in question were not mapped.

For its Clean Water Act Section 404 permit program, the Corps of Engineers uses a narrower wetland definition that requires the presence of wetland vegetation, hydric soils, and wetland hydrology for a wetland determination. Therefore, as defined in the Corps' 1987 Wetlands Delineation Manual, there are no wetlands on the Bodie Island spit proposed for dredging. This resulted in the statement in the EA (page 6-7) that "it is the Corps' assessment that no net loss of wetlands would occur as a result of the proposed action . . . ."

The intertidal shoreline wetlands at this site are significant because they provide important habitat for biologic resources of the park. Organisms that could use the wetland include invertebrates of the beach/dune community such as the mole crab (*Emerita talpoida*), coquina clams (*Donax variabilus*), and ghost crabs (*Ocypode quadrata*).

Birds common along the ocean beach include black-bellied plovers, ruddy turnstones, whimbrels, willets, knots, semi-palmated sandpipers, and sanderlings. Colonial nesting waterbirds (gulls, terns, and wading birds) are an important part of the project area ecosystem and add a vital element to the overall aesthetic appeal of the area for the many tourists that visit it each year.

The American oystercatcher (*Haematopus palliatus*) is a solitary nesting bird that favors open beaches and sand flats such as those on the Bodie Island spit. Oystercatchers need large, relatively undisturbed beaches for breeding.

Federal and/or state listed species that could use the wetland include:

Piping plover. The piping plover is a fairly common winter resident along the beaches of North Carolina (Potter, et al., 1980). Project specific information is provided by Nicholls (1989) who determined that Oregon Inlet provides wintering habitat for 4% of North Carolina's total wintering piping plover population. Each winter, at least 2 to 5 piping plovers overwinter in the vicinity of the inlet. Because of its importance to wintering piping plovers, the US Fish and Wildlife Service designated the Oregon Inlet complex as critical habitat (Unit NC-1) on July 10, 2001. Federal agencies are required to consult with the FWS on actions they carry out, fund, or authorize within the designated critical habitat to ensure that their actions will not destroy or adversely modify critical habitat.

Hawksbill, leatherback, and Kemp's ridley sea turtles. None of these species is known to nest regularly along the North Carolina coast. In North Carolina, the Kemp's ridley sea turtle is known from estuarine and oceanic waters, whereas the leatherback and hawksbill are normally associated with oceanic waters however, both species have been documented to come through Oregon Inlet into Pamlico Sound, but not nest on the shoreline of the Bodie Island spit.

Loggerhead and green sea turtles. In the project area, the green and loggerhead sea turtles are known from both estuarine and oceanic waters. Both of these species are considered to be residents of North Carolina waters primarily from the spring through the fall although occasional winter records exist. Of these two species, only the loggerhead is considered to be a regular nester in the state, while the green nests only sporadically. For the purposes of this assessment, the loggerhead and green sea turtles are considered to be the only species likely to nest in the project area, however there are no records of any sea turtle nesting on the Bodie Island spit or within proximity to Oregon Inlet.

The Fish and Wildlife Service has not yet determined the effect of the proposed project on federally listed threatened and endangered species or their critical habitat. A determination is expected in late May 2002.

This shoreline is used by tourists/recreationists. These uses will relocate to the new shoreline that will establish following dredging, although there will be a net loss of shoreline available for recreational use. A cultural resource survey was conducted and no archeological resources were found. The wetland is not currently being used for research purposes.

PROJECT'S IMPACT ON WETLANDS

The wetland (shoreline) will be dredged. Following dredging, the curvilinear natural shoreline will become a straight shoreline parallel to the channel and 400 feet to the north. There will be a long-term loss of wetland (shoreline) as a result of dredging. The spit is expected to prograde to the south following dredging. The Corps plans to dredge the prograded spit as needed to maintain the navigation channel. Although the shoreline will reestablish and prograde, the periodic (probably annual) dredging is considered a permanent loss of habitat because of the frequent removal of intertidal shoreline and because the populations of organisms using this wetland are not expected to fully recover prior to future dredging events.

WETLAND AVOIDANCE, MINIMIZATION, COMPENSATION

The project with the Corps' preferred 600-foot widener proposes to impact about 4.5 acres of estuarine intertidal unconsolidated shore wetland habitat. Because the spit must be dredged to clear the federal navigation channel and the shoreline of the spit is wetlands, there is no way to avoid the wetlands. Some of the wetlands will be reestablished at the new shoreline following completion of dredging. Then the spit is expected to again prograde to the south.

Using the NPS preferred 400-foot widener instead of the 600-foot widener minimizes the impact on wetlands. No figures were computed to determine the acreage of wetland loss with a 400-foot widener but it would be less than the 4.5 acres identified above for the 600-foot widener.

There will be a long-term loss of wetlands (existing spit shoreline minus the expected new shoreline parallel to the channel) that requires compensation. D.O. #77-1 requires the NPS to compensate for unavoidable wetland degradation or loss at a minimum 1:1 acreage ratio, with preference for restoration of comparable wetland types and functions. The required compensation will occur on the Bodie Island spit slightly north of the channel and will meet the NPS's required 1:1 minimum compensation ratio. (The actual acreage of wetlands created will be based on the actual widener width but will equal or exceed the required 1:1 minimum compensation ratio.) It is proposed to have the Corps use heavy equipment to remove sand from existing unvegetated flats on the Bodie Island spit. Some of these areas may be within a closed bird area that has had piping plover nests in the past. Therefore the required work will be done during the non-breeding season. With the natural succession of the area, the elevation has increased slightly and pioneer plant species have moved in. By removing sand, the elevation will be reduced to a level that will be inundated or saturated most if not all the time. Rather than ponds, these will be very shallow palustrine wetland areas that will provide excellent habitat for foraging piping plover and their hatchlings. Excavation is proposed in numerous separate areas to create scattered wetlands that reduce competition among the birds and other wildlife using the wetlands. Although specific locations have not been identified, they will be within or near the existing bird closure shown on the attached map. The removed sand will be redistributed on the Bodie Island spit to keep the material within the natural system.

As succession continues in future years, the bird closure may change and new areas will require excavation to mitigate for continued dredging in the inlet. Dredging will effectively stop the natural processes that create new habitat but will not stop natural succession that alters habitat elsewhere on the spit. The result will be a net loss of piping plover habitat that requires mitigation.

Although the proposed wetland mitigation does not duplicate the habitat value of the shoreline in the dynamic inlet, that is not a possible option. By creating viable wetlands that also improve habitat for a threatened species, it is believed that the proposed compensation meets the spirit of Executive Order 11990 and Director's Order #77-1.

CONCLUSION

The National Park Service finds that there are no practicable alternatives to the loss of wetlands within Cape Hatteras National Seashore for the maintenance of Oregon Inlet bar channel and the channel widener on Bodie Island. Wetland loss could not be avoided. Wetland loss has been minimized and the wetland impacts that could not be avoided will be compensated for through creation of wetland habitat that would exist in the area was it not for the ongoing dredging. The actual acreage of wetlands created will be based on the actual widener width but will equal or exceed the required 1:1 minimum compensation ratio. This is consistent with NPS wetland guidance (Procedural Manual #77-1), including the "no-net-loss" of wetland policy. Compensation on Bodie Island spit will involve the creation of new wetlands that are in a location to also improve habitat for piping plover. The National Park Service, therefore, finds that this project is in compliance with Executive Order 11990: “Protection of Wetlands” and Director’s Order #77-1: Wetland Protection.

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